217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT – REVISED

PERMITTEE

Porcelain Products Company
Attn: M. Lyn Johnson
510 North Pearl Street
Macomb, Illinois 61455

Application No.: 72120657 I.D. No.: 109035AAF
Applicant's Designation: MACOMBPLANT Date Received: June 29, 2001
Subject: Porcelain Insulators Mfg.
Date Issued: August 21, 2001 Expiration Date: May 30, 2005
Location: 510 North Pearl Street, Macomb

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of porcelain insulators manufacturing plant which consists of the equipment listed in Attachment B as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This federally enforceable state operating permit is issued to limit the emissions of particulate matter from the source to less than major source thresholds (i.e., PM-10 to less than 100 tons per year). As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit. The maximum emissions at this source, as limited by the conditions of this permit, are described in Attachment A.

b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

c. This permit supersedes all operating permits issued for this location.

2a. Emissions and operation of the mill room and receiving equipment shall not exceed the following limits:

Item of Equipment	Process Rate (Tons/Mo)	Process Rate (Tons/Yr)	Particulate Matter Emissions (Tons/Mo)	Particulate Matter Emissions (Tons/Yr)
Silos 1-10	14,400	144,000	2.5	24.5
Virgin Surge Hopper	3,389	33,887	0.6	5.76
Recycle Surge Hopper	6,029	60,289	1.03	10.25
Bag Compactor	124	1,239	0.02	0.21
Material Unloading	3,164	31,635	0.54	5.38
		Total	4.69	46.10

b. These limits are based on the maximum process rate, standard emission factors (34 lb/ton), maximum hours of operation and maximum collector efficiency (99%). Compliance with annual limits shall be determined from a running total of 12 months of data.

3a. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Process Rate (Tons/Mo)	Process Rate (Tons/Yr)	Particulate Matter Emissions (Tons/Mo)	Particulate Matter Emissions (Tons/Yr)
Turning Dept. – BH #1	600	6,000	0.1	0.6
Turning Dept. – BH #2	100	1,000	0.1	0.44
Turning Dept. – BH #3	600	6,000	0.1	0.6
Turning Dept. – BH #4	600	6,000	0.1	0.6
Turning Dept. – BH #5	750	7,500	0.1	0.73
Turning Dept. – BH #6	1,100	11,000	0.2	1.1
		Total	0.7	4.07

b. These limits are based on the maximum process rate, standard emission factors (76 lb/ton) and maximum collector efficiency of 99.7%. Compliance with annual limits shall be determined from a running total of 12 months of data.

4. Emissions and operation of the kilns, dryers, and glazing process shall not exceed the following limits:

Item of Equipment	Process Rate (Tons/Mo)	Process Rate (Tons/Yr)	Emission Factor (Lb/Ton)	PM Emissions (Tons/Mo)	PM Emissions (Tons/Yr)
Kilns	800	8,000	0.49	0.2	2.0
Glazing	21	210	19	0.2	2.0
Dryers	800	8,000	2.3	0.92	9.2
			Total	1.32	13.2

These limits are based on the maximum process rate and standard emission factors lb PM/tons fired ceramic produced for the dryers and kilns and lb PM/ton glaze used for the glazing process. Compliance with annual limits shall be determined from a running total of 12 months of data.

5a. This permit is issued based on negligible emissions of particulate matter from the following emission units:

Emission Units	Particulate Matter Emissions (Lb/Hour)	Particulate Matter Emissions (Tons/Year)
Two LaBlond Lathes	0.10	0.44
Bench Vise Grinder	0.10	0.44
Two Grinders	0.10	0.44

Emission Units	Particulate Matter Emissions (Lb/Hour)	(Tons/Year)
Pedestal Grinder	0.10	0.44
Hand Grinder	0.10	0.44
Cardboard Band Saw	0.10	0.44
Vacuum Cleaning	0.10	0.44
Sealed Vacuum Conveying	0.10	0.44
Welder	0.10	0.44
Simpson Mixer	0.10	0.44
Shaker Screen	0.10	0.44
Lead Pot	0.10	0.44
Sulfur Cement Mixer	0.10	0.44
Total	1.3	5.72

b. These limits are based on the maximum emission rate calculated using a conservative engineering estimate. Compliance with annual limits shall be determined from a running total of 12 months of data.

6a. Emissions and operation of all fuel combustion emission sources shall not exceed the following limits:

Material	(mmscf/Mo)	(mmscf/Yr)	Pollutant	Emission Factor (Lb/mmscf)	Emissions (Tons/Mo)	(Tons/Yr)
Natural Gas	29	290	NO_x	100	1.5	14.5
			CO	84	1.22	12.2
			TSP	7.6	0.11	1.1
			VOM	5.5	0.1	0.8

These limits define the potential emissions of NO_x, CO, TSP, and VOM and are based on maximum fuel usage and standard emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Natural gas shall be the only fuel used in all the fuel combustion sources. Use of any other fuel other than natural gas requires a permit revision.

7. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Oil Usage (Tons/Mo)	(Tons/Yr)	VOM Emissions (Tons/Mo)	(Tons/Yr)
Hot Press	0.3	2.6	0.3	2.6

These limits are based on maximum usage rates and maximum VOM content (100%). Compliance with annual limits shall be determined from a running total of 12 months of data.

8. Emissions of hydrogen sulfide (H_2S) and operation of the sulfur cement mixer shall not exceed the following limits:

Material	Usage (Tons/Mo)	Usage (Tons/Yr)	H_2S Emissions (Tons/Mo)	H_2S Emissions (Tons/Yr)
Sulfur Cement	9.0	88	0.12	1.2

These limits define the potential emissions of H_2S and are based on maximum material usages and emissions information provided by the company. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.

9. The Permittee shall perform daily visual inspections of baghouse emissions and monthly inspections of baghouse interior. If visual observations indicate increased opacity and possible reduction of baghouse efficiency, Permittee shall take all reasonable steps to restore the baghouse to optimum efficiency as quickly as possible. Permittee shall record estimates of opacity observed during daily inspections and the conditions of the bag filters and other mechanical parts of the baghouse during monthly interior inspections. This information shall be recorded on log sheets and made available for inspection and copying by the Illinois EPA or USEPA upon request. The Permittee shall maintain these records for a period of two years.

10. Within 90 days of a written request from the Illinois EPA, the particulate matter emissions of the emission units shall be measured during conditions which are representative of maximum emissions.

11a. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.

b. In the event that the operation of this emission unit results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.

12. The Permittee shall maintain monthly records of the following items:

a. Process rate for the equipment listed in Conditions 2, 3, and 4 (tons/month and tons/year);

b. Natural gas usage (mmscf/month and mmscf/year);

c. Amount of sulfur cement used in the sulfur cement mixer (tons/month and tons/year);

d. Amount of oil used in the hot press (tons/month and tons/year); and

e. Detailed calculations of PM emissions.

13. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source Office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

14. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

15. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional Office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

16. The Permittee shall submit the following additional information with the Annual Emission Report, due May 1st of each year: process rate for the equipment listed in Conditions 2, 3, and 4 from the prior calendar year. If there have been no exceedances during the prior calendar year, the Annual Emissions Report shall include a statement to that effect.

It should be noted that this permit has been revised to incorporate Construction Permit #01060088 to include a sulfur cement mixer.

It should be noted that this permit has been revised to change the emissions limits in Conditions 2 and 3 and to add the emissions from the kilns, dryers, and glazing process.

If you have any questions on this, please call Tara T. Nguyen-Ede at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 2
Illinois EPA, CASM
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from porcelain insulators plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels, e.g., 100 tons per year of PM-10 at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

1. Emissions of PM:

Item of Equipment	Particulate Matter Emissions (Tons/Month)	(Tons/Year)
Silos 1-10	2.5	24.5
Virgin Surge Hopper	0.6	5.76
Recycle Surge Hopper	1.03	10.25
Bag Compactor	0.02	0.21
Material Unloading	0.54	5.38
Turning Dept. - BH #1	0.1	0.6
Turning Dept. - BH #2	0.1	0.44
Turning Dept. - BH #3	0.1	0.6
Turning Dept. - BH #4	0.1	0.6
Turning Dept. - BH #5	0.1	0.73
Turning Dept. - BH #6	0.2	1.1
Two LaBlond Lathes	0.10	0.44
Bench Vice Grinder	0.10	0.44
Two Grinders	0.10	0.44
Pedestal Grinder	0.10	0.44
Hand Grinder	0.10	0.44
Cardboard Band Saw	0.10	0.44
Vacuum Cleaning	0.10	0.44
Sealed Vacuum Conveying	0.10	0.44
Welder	0.10	0.44
Simpson Mixer	0.10	0.44
Shaker Screen	0.10	0.44
Lead Pot	0.10	0.44
Sulfur Cement Mixer	0.10	0.44
Kilns	0.2	2.0
Dryers	0.92	9.2
Glazing Process	0.2	2.0
Total	8.01	69.09

This table defines the potential emissions of the plant and is based on the actual emission provided by the permit application.

2a. Emissions and operation of all fuel combustion emission sources shall not exceed the following limits:

Material	(mmscf/Mo)	(mmscf/Yr)	Pollutant	Emission Factor (Lb/mmscf)	Emissions (Tons/Mo)	Emissions (Tons/Yr)
Natural Gas	29	290	NO_x	100	1.5	14.5
			CO	84	1.22	12.2
			TSP	7.6	0.11	1.1
			VOM	5.5	0.1	0.8

These limits define the potential emissions of NO_x, CO, TSP, and VOM and are based on maximum fuel usage and standard emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Natural gas shall be the only fuel used in all the fuel combustion sources. Use of any other fuel other than natural gas requires a permit revision.

3. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Oil Usage (Tons/Mo)	Oil Usage (Tons/Yr)	VOM Emissions (Tons/Mo)	VOM Emissions (Tons/Yr)
Hot Press	0.3	2.6	0.3	2.6

These limits are based on maximum usage rates and maximum VOM content (100%). Compliance with annual limits shall be determined from a running total of 12 months of data.

4. Emissions of hydrogen sulfide (H_2S) and operation of the sulfur cement mixer shall not exceed the following limits:

Material	Usage (Tons/Mo)	Usage (Tons/Yr)	H_2S Emissions (Tons/Mo)	H_2S Emissions (Tons/Yr)
Sulfur Cement	9.0	88	0.12	1.2

These limits define the potential emissions of H_2S and are based on maximum material usages and emissions information provided by the company. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.

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Attachment B - Equipment List

Source List

Combustion Sources:
- Greenware Dry #4
- Greenware Dry #5
- Repair/Preheat Oven
- Large Turn Oven
- Burham Boiler
- Cleaver Brooks
- Bickley Kiln #797
- Bickley Kiln #798
- Pre Kiln Dryer #1019
- Kiln #1
- Kiln #2

Mill Room:
- Silo 1 & 2
- Silo 3 & 4
- Silo 5
- Silo 7 & 8
- Silo 9
- Silo 6 & 10
- Virgin Surge Hopper
- Recycle Surge Hopper
- Bag Compactor
- Mat. Unloading (Air Slide)

Tool Room:
- 2 LaBlond Lathes
- Bench Vise Grinding
- 2 Grinders
- Pedestal Grinder

Misc. Sources:
- Welding
- Cardboard Band Saw
- Hand Grinder
- Hot Press
- Simpson Mixer
- Shaker Screen
- Lead Pot
- Vacuum Cleaning
- Sealed Vacuum Conveying
- Glazing Equipment
- Sulfur Cement Mixer

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Turning Department
- BH #1
  - L.V. Bore #50, 51
  - Horiz. Bore #52
  - Horiz. Bore #53
  - Vert. Bore #54
  - Vert. Bore #55
  - B.O. Booth
  - Dry Turn Machine
- BH #2
  - Secondary Machines
- BH #3
  - CNC 3 Spindle #1
  - CNC 3 Spindle #2
  - 1178 2 Blu GSE
  - Secondary Machines
- BH #4
  - Secondary Machines
  - Large Turn Lathe #37
  - BT Lathe #32
  - BT Lathe #33
  - #1473 CNC 3 Spindle
- BH #5
  - BT Lathes #22-31
  - Bretragger Lathe
  - CNC #1316, 1317
  - Inspection Booth
- BH #6
  - Auto Turn #10, 15, 17-19
  - CNC Lathe #1311, 28, 29, 31
  - Material Reclaim
  - Gleason Shredder